



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,680	10/17/2006	Yuki Takii	TIP-06-1314	2791
35811 7590 08/25/2009 IP GROUP OF DLA PIPER LLP (US) ONE LIBERTY PLACE 1650 MARKET ST, SUITE 4900 PHILADELPHIA, PA 19103			EXAMINER KILPATRICK, BRYAN T	
			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			08/25/2009 ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

### Office Action Summary

**Application No.**

10/593,680

**Applicant(s)**

TAKII ET AL.

**Examiner**

BRYAN T. KILPATRICK

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 20 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☒ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: claim 1 recites, "mixing **the** fine particles or air bubbles..." in line 3 which implies an antecedent for the fine particles or air bubbles to be in a previous claim. Appropriate correction is required; reference instant claim 5 language for fine particles or air bubbles.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the support..." in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,770,461 (Sakazume et al.), and further in view of U.S. Patent No. 4,815,978 (Mazza et al.).

In regards to instant claim 1, Sakazume et al. discloses a method and apparatus for separating magnetic particles that have immunocomplexes bound upon them, then flocks of the bound magnetic particles are made using a magnetic field, which are then bound to the reaction container walls that the materials are located inside via a stronger magnetic field (Abstract). Furthermore, Sakazume et al. discloses a method where applying varying magnetic fields causes rotational motion (col. 3, lines 1-2) and shaking (col. 3, lines 16-20) of magnetic particles, and further employs an agitation device (col. 5, lines 16-34).

Sakazume et al. discloses the use of a nozzle for removing unnecessary liquids in the Abstract, but it does not expressly disclose the use of a mixing medium such as air. However, Mazza et al. recites in claims 1-31 and Figure 9 of an apparatus and method for mixing liquid samples in a cuvette using an air jet supplied through a nozzle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nozzle of Sakazume et al. to supply an air jet for mixing similarly to the method and apparatus taught by Mazza et al. The motivation would have been to be capable of thoroughly mixing the contents in a reaction container (Mazza et al.

Abstract) in addition to being capable of removing liquid material when needed (Sakazume et al. Abstract).

In regards to instant claims 2-3, Sakazume et al. discloses magnetic particles for immobilization that can bind to the walls of a reaction container (Abstract).

In regards to instant claim 4, claim 4 of Sakazume et al. recites diameters for magnetic particles used for immobilizing immunocomplexes, which suggest circular particles.

In regards to instant claims 5 and 7, claim 4 of Sakazume et al. recites diameters for magnetic particles used for immobilizing immunocomplexes, which suggest circular particles. Sakazume et al. discloses a method and apparatus for separating magnetic particles that have immunocomplexes bound upon them, and then flocks of the bound magnetic particles are made using a magnetic field, which are then bound to the reaction container walls that the materials are located inside via a stronger magnetic field (Abstract). Mazza et al. recites in claims 1-31 and Figure 9 of an apparatus and method for mixing liquid samples in a cuvette using an air jet supplied through a nozzle.

In regards to instant claims 6, 8, and 11; Sakazume et al. discloses a method where applying varying magnetic fields causes rotational motion (col. 3, lines 1-2) and shaking (col. 3, lines 16-20) of magnetic particles, and further employs an agitation device (col. 5, lines 16-34) for mixing.

In regards to instant claim 9, Sakazume et al. discloses a method where applying varying magnetic fields causes rotational motion (col. 3, lines 1-2) and shaking (col. 3,

lines 16-20) of magnetic particles, and further employs an agitation device (col. 5, lines 16-34) for agitating a reaction container. Claim 4 of Sakazume et al. recites diameters for magnetic particles used for immobilizing immunocomplexes, which suggest circular particles.

In regards to instant claims 10 and 12, claim 4 of Sakazume et al. recites diameters for magnetic particles used to be 1-2 micrometers or 10-50 micrometers.

In regards to instant 13, Sakazume et al. discloses the analysis of a biological sample in col. 3, line 64. It is well known in the art that nucleic acids are encompassed by biological samples.

In regards to instant claim 14, Sakazume et al. discloses the binding and analysis of samples in a solution col. 3, line 63 – col. 4, line 11.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5,780,306 (Schels et al.) discloses an invention for mixing samples by blowing gas in the Abstract and Figure 1. U.S. Patent Application Publication 2003/0134316 (Tashiro et al.) discloses a method of stirring a reaction solution in a vessel using a magnetic field in the Abstract. U.S. Patent No. 7,476,313 (Siddiqi) discloses an apparatus and method of mixing using magnetic particles in the Abstract.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN T. KILPATRICK whose telephone number is (571)270-5553. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel P Siefke/  
Primary Examiner, Art Unit 1797

/B. T. K./  
Examiner, Art Unit 1797